

Patent

HM-244DIV

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Günter Kneppe, et al.
Serial No.: not yet known (Divisional of 09/177,300)
Filed: concurrently herewith
For: HIGH-SPEED SHEAR FOR TRANSVERSELY CUTTING
ROLLED STRIP

Assistant Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

S I R:

Prior to issuing an Office Action, please amend the above-identified application as follows:

IN THE CLAIMS

Delete claims 1 - 23 and substitute therefor the enclosed new claims 24 - 34.

Respectfully submitted,

Dated: August 24, 2001

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EXPRESS MAIL No.: **EL 803 956 375 US** Deposited: **August 24, 2001**

I hereby certify that this correspondence is being deposited with the United States Postal Service Express mail under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner of Patents and Trademarks, Washington, DC 20231.

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New Claims

24. A high-speed shear comprising a knife drum and a counter-drum located opposite the knife drum, at least one knife having a knife cutting edge mounted on the knife drum, at least one drive unit for accelerating the drums to a speed corresponding to a feeding speed of a rolled strip to be cut, and at least one adjusting device for adjusting the drums relative to each other for carrying out a cut, the knife drum having a cutting circle, wherein the knife is mounted so as to protrude beyond the cutting circle towards the counter-drum, and wherein the knife is mounted so as to be resiliently supported with a predetermined restoring force against at least one spring element, wherein the knife is mounted so as to be resiliently supported in a radial guide means against a gas pressure spring.

25. The high-speed shear according to claim 24, wherein the knife is a chisel-type knife.

26. The high-speed shear according to claim 24, wherein the counter-drum has a surface portion acting as an anvil and interacting with the knife.

27. The high-speed shear according to claim 24, wherein the adjusting device receiving the knife drum with a bearing thereof is mounted so as to be supported by a pneumatically or hydraulically yielding receiving means.

28. The high-speed shear according to claim 24, further comprising another adjusting device for adjusting at least one of a travel and a progressiveness of the gas pressure spring.

29. The high-speed shear according to claim 24, comprising means for synchronizing the circumferential speeds of the drums with each other for maintaining a defined cutting gap between the knife and the counter-drum and for synchronizing the circumferential speed of the drums with the strip feeding speed.

30. A high-speed shear comprising a knife drum and a counter-drum located opposite the knife drum, at least one knife having a knife cutting edge mounted on the knife drum, at least one drive unit for accelerating the drums to a speed corresponding to a feeding speed of a rolled strip to be cut, and at least one adjusting device for adjusting the drums relative to each other for carrying out a cut, the knife drum having a cutting circle, wherein the knife is mounted so as to protrude beyond the cutting circle towards the counter-drum, and wherein the knife is mounted so as to

be resiliently supported with a predeterminable restoring force against at least one spring element, wherein the knife is mounted so as to be supported against a hydraulic liquid column interacting with a pressure reservoir.

31. The high-speed shear according to claim 30, wherein the knife is a chisel-type knife.

32. The high-speed shear according to claim 30, wherein the counter-drum has a surface portion acting as an anvil and interacting with the knife.

33. The high-speed shear according to claim 30, wherein the adjusting device receiving the knife drum with a bearing thereof is mounted so as to be supported by a pneumatically or hydraulically yielding receiving means.

34. The high-speed shear according to claim 30, comprising means for synchronizing the circumferential speeds of the drums with each other for maintaining a defined cutting gap between the knife and the counter-drum and for synchronizing the circumferential speed of the drums with the strip feeding speed.